**Post-Test**

\_\_\_\_ 1. Evaluate 6*d*  3*e* for *d* = –5 and *e* = 3.

|  |  |
| --- | --- |
| a. | 39 |
| b. | –2 |
| c. | 9 |
| d. | –21 |

**Simplify the expression.**

\_\_\_\_ 2. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 3. 3*r*  7*r*  9*r*

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 13*r* | c. | 5*r* |
| b. | 19*r* | d. | –19*r* |

\_\_\_\_ 4. The literature club is printing a storybook to raise money. The print shop charges $3 for each book, and $45 to create the film. How many books can the club print if their budget is $525?

|  |  |
| --- | --- |
| a. | 165 |
| b. | 170 |
| c. | 175 |
| d. | 160 |

\_\_\_\_ 5. You are saving money to buy a new football that costs $65. You have $40 saved. How much more money do you need to save? Use the verbal model to assign labels and write an equation to represent the problem, then solve.



|  |  |
| --- | --- |
| a. | Amount saved = $40; Amount left to save = *x*, Cost = $65; ; $25 |
| b. | Amount saved = *x*; Amount left to save = $65, Cost = $40; ; $105 |
| c. | Amount saved = *x*; Amount left to save = $40, Cost = $65; ; $25 |
| d. | Amount saved = $65; Amount left to save = *x*, Cost = $40; ; $105 |

\_\_\_\_ 6. Brandon read 360 words in 12 minutes. How many words could he read in one minute?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 40 words | c. | 42 words |
| b. | 372 words | d. | 30 words |

\_\_\_\_ 7. If the pattern shown is continued, what would be the total number of triangles in the ninth stage of the pattern?



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 36 | b. | 144 | c. | 180 | d. | 40 |

\_\_\_\_ 8. At Dr. Carrey's clinic, 42% more patients are treated for flu symptoms in the winter than in the summer. Which is an algebraic expression for the number of flu cases in the winter?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 9. Solve for *t* in the equation .

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |

\_\_\_\_ 10. Solve for *A* : *B* = (*A* – 11)

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |

\_\_\_\_ 11. A jumbo jet carries 330 passengers, 32 in first class, and the remainder in coach. If the average first class ticket is $860 and the average coach ticket is $360, how much will the airline gross if the plane is full?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | $267,800 | b. | $201,300 | c. | $137,780 | d. | $134,800 |

\_\_\_\_ 12. When a car is slowed to a stop by uniform pressure on the brakes, the car's average speed during the stop is half of its original speed. Suppose a car moving at 42 miles per hour takes 2.5 seconds to brake smoothly to a stop. How many feet did the car travel during that time?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 77.0 feet | b. | 105.0 feet | c. | 85.2 feet | d. | 52.5 feet |

\_\_\_\_ 13. In March, a customer spent $8.55 at an office-supply store for some 12-packs of pens. At that time, the office-supply store was selling packages of one dozen pens for $1.35. Any customer who bought more than 4 packages, received a discount of $0.30 on the price of each package in excess of 4 packages. In September, the same customer went back to the store to buy the same number of pens. By then, the price per 12-pack of pens had been raised to $1.50 each, with the same discount for more than 4 packages. How much more did the customer have to pay in September than in March?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | $1.05 | b. | $1.02 | c. | $0.45 | d. | $8.85 |

\_\_\_\_ 14. A grocery clerk sets up a display of 12-pack cartons of cola. There are 25 cartons at the base of the triangle and one at the top.



How many cartons of cola are needed for the complete display?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 15 | b. | 325 | c. | 30 | d. | 300 |

\_\_\_\_ 15. A natural gas company is laying gas pipe underground to connect new customers in a subdivision. Each pipe is 18 feet long. If the total length of pipe needed for the new customers is 810 yards, how many pipes will the gas company lay underground?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 135 pipes | b. | 270 pipes | c. | 45 pipes | d. | 18 pipes |

\_\_\_\_ 16. Bartholomew's pet snake was 1.3 meters long one week ago. In 7 days it grew 22 centimeters. How long is the snake?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 1.43 m | b. | 23.3 cm | c. | 23.39 cm | d. | 1.52 m |

\_\_\_\_ 17. At 58 km/h, how far can you travel in 6 h?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 232 km | b. | 464 km | c. | 378 km | d. | 348 km |

\_\_\_\_ 18. There are 64 teams in a soccer tournament. Each team plays until it loses one game. There are no ties. How many games are played? You may want to draw a diagram to look for a pattern.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 63 games | b. | 64 games | c. | 62 games | d. | 65 games |

\_\_\_\_ 19. A school soccer team has a game at 4:00 P.M. The team bus takes 30 minutes to travel from school to the field where the game is being played. After arriving at the field, the team needs to warm up for 45 minutes before the start of the game. Which is the best first step to take in order to find the time that the team should depart from the school?

|  |  |
| --- | --- |
| a. | Add the time it takes to travel to the game to 4:00 P.M. |
| b. | Add the time needed to warm up to 4:00 P.M. |
| c. | Add the travel time and the warm up time together. |
| d. | Subtract the warm up time from the travel time. |

\_\_\_\_ 20. If the pattern is continued, how many white triangles will be in Figure 7?



|  |  |  |  |
| --- | --- | --- | --- |
| a. | 26 | c. | 35 |
| b. | 36 | d. | 28 |

\_\_\_\_ 21. A grocery store sells 2 boxes of cereal for $4.95. Which method can be used to find the total cost *c* of purchasing *n* boxes of cereal?

|  |  |
| --- | --- |
| a. | Multiply *n* by the cost of one box. |
| b. | Divide *n* by *c*. |
| c. | Multiply *n* by *c.* |
| d. | Divide *n* by the cost of one box. |

\_\_\_\_ 22. An oil tank contains 208.3 gallons of oil. Whenever the amount of oil drops below 50 gallons, an alarm sounds. If 182.5 gallons are pumped into a delivery truck, how many gallons must be pumped back into the tank in order to shut off the alarm?

|  |  |
| --- | --- |
| a. | at least 25.4 gallons |
| b. | at least 24.2 gallons |
| c. | at least 134.1 gallons |
| d. | at least 25.8 gallons |

\_\_\_\_ 23. On a road in the city of Hinkley, the maximum speed is 50 miles per hour and the minimum speed is 20 miles per hour. If *x* represents speed, which sentence best expresses this condition?

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |

\_\_\_\_ 24. Graph the function: 

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |

\_\_\_\_ 25. Find the *y*-intercept of the equation. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 4 | b. | –21 | c. | –3 | d. | 7 |

\_\_\_\_ 26. The projected worth (in millions of dollars) of a large company is modeled by the equation  The variable *x* represents the number of years since 1997. What is the projected annual percent of growth, and what should the company be worth in 2001?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 14%; $293.21 million | c. | 14%; $250.64 million |
| b. | 4%; $271.09 million | d. | 4%; $281.94 million |

**Post-Test**

**Answer Section**

1. ANS: D PTS: 1 DIF: Level A REF: MAL20094

TOP: Lesson 1.2 Evaluate and Simplify Algebraic Expressions

KEY: algebraic expression | evaluate | substitute BLM: Comprehension

NOT: 978-0-618-65615-8

2. ANS: A PTS: 1 DIF: Level B REF: MAL20109

NAT: NCTM 9-12.ALG.2.a TOP: Lesson 1.2 Evaluate and Simplify Algebraic Expressions

KEY: binomial | distribute | combine | simplify | like terms BLM: Comprehension

NOT: 978-0-618-65615-8

3. ANS: C PTS: 1 DIF: Level B REF: MAL20111

NAT: NCTM 9-12.ALG.2.a TOP: Lesson 1.2 Evaluate and Simplify Algebraic Expressions

KEY: simplify | expression | variable | combine | like terms BLM: Comprehension

NOT: 978-0-618-65615-8

4. ANS: D PTS: 1 DIF: Level B REF: MAL20126

TOP: Lesson 1.3 Solve Linear Equations KEY: solve | word | linear | step(2)

BLM: Application NOT: 978-0-618-65615-8

5. ANS: A PTS: 1 DIF: Level B REF: MAL20129

TOP: Lesson 1.3 Solve Linear Equations KEY: equation | word | model | verbal

BLM: Application NOT: 978-0-618-65615-8

6. ANS: D PTS: 1 DIF: Level B REF: MALG0103

STA: GA.GPS.MTH.04.6-12.M6P1.a | GA.GPS.MTH.04.6-12.M6P1.b

TOP: Lesson 1.3 Write Expressions KEY: rate | time | total | divide

BLM: Application NOT: 978-0-618-65612-7

7. ANS: A PTS: 1 DIF: Level B REF: MALG0118

TOP: Lesson 1.3 Write Expressions

KEY: ratio | formula | model | term | pattern | general | sequence | series | write | arithmetic

BLM: Comprehension NOT: 978-0-618-65612-7

8. ANS: B PTS: 1 DIF: Level B REF: MALG0212

TOP: Lesson 1.3 Write Expressions KEY: word | expression | pattern | algebraic | percent | write

BLM: Application NOT: 978-0-618-65612-7

9. ANS: A PTS: 1 DIF: Level B REF: MAL20141

NAT: NCTM 9-12.ALG.1.b TOP: Lesson 1.4 Rewrite Formulas and Equations

KEY: equation | solve | variable BLM: Comprehension

NOT: 978-0-618-65615-8

10. ANS: A PTS: 1 DIF: Level B REF: MAL20146

NAT: NCTM 9-12.ALG.1.b TOP: Lesson 1.4 Rewrite Formulas and Equations

KEY: solve | equation | variable BLM: Comprehension

NOT: 978-0-618-65615-8

11. ANS: D PTS: 1 DIF: Level B REF: MALG0150

TOP: Lesson 1.5 Use a Problem Solving Plan

KEY: subtract | multiply | linear combination | word | add BLM: Application

NOT: 978-0-618-65612-7

12. ANS: A PTS: 1 DIF: Level B REF: MALG0156

TOP: Lesson 1.5 Use a Problem Solving Plan KEY: word | rate | time | distance

BLM: Application NOT: 978-0-618-65612-7

13. ANS: A PTS: 1 DIF: Level B REF: MALG0162

TOP: Lesson 1.5 Use a Problem Solving Plan

KEY: linear | change | word | real-life | function | parameter BLM: Application

NOT: 978-0-618-65612-7

14. ANS: B PTS: 1 DIF: Level A REF: MALG0179

TOP: Lesson 1.5 Use a Problem Solving Plan KEY: sequence | arithmetic | word | sum

BLM: Application NOT: 978-0-618-65612-7

15. ANS: A PTS: 1 DIF: Level B REF: MALG0189

TOP: Lesson 1.5 Use a Problem Solving Plan

KEY: divide | multiply | yard | foot | word | convert BLM: Knowledge

NOT: 978-0-618-65612-7

16. ANS: D PTS: 1 DIF: Level A REF: MALG0190

TOP: Lesson 1.5 Use a Problem Solving Plan

KEY: solve | word | convert | addition | metric | decimal | measurement

BLM: Knowledge NOT: 978-0-618-65612-7

17. ANS: D PTS: 1 DIF: Level A REF: MALG0109

STA: GA.GPS.MTH.04.6-12.M6P1.a | GA.GPS.MTH.04.6-12.M6P1.b

TOP: Lesson 1.5 Use a Problem Solving Plan KEY: unit rate

BLM: Knowledge NOT: 978-0-618-65612-7

18. ANS: A PTS: 1 DIF: Level B REF: MALG1696

TOP: Lesson 1.5 Use a Problem Solving Plan KEY: pattern

BLM: Comprehension NOT: 978-0-618-65612-7

19. ANS: C PTS: 1 DIF: Level B

REF: 62a7bb60-4f27-11db-b4d8-0011258082f7

TOP: Lesson 1.5 Use a Problem Solving Plan KEY: problem solving

BLM: Application NOT: 978-0-618-65612-7

20. ANS: D PTS: 1 DIF: Level B REF: MAL20155

TOP: Lesson 1.5 Use Problem Solving Strategies and Models KEY: model | pattern

BLM: Application NOT: 978-0-618-65615-8

21. ANS: A PTS: 1 DIF: Level A

REF: 62b41bf0-4f27-11db-b4d8-0011258082f7

TOP: Lesson 1.5 Use Problem Solving Strategies and Models KEY: problem solving

BLM: Application NOT: 978-0-618-65615-8

22. ANS: B PTS: 1 DIF: Level B REF: MAL20168

TOP: Lesson 1.6 Solve Linear Inequalities KEY: inequality | solve | word

BLM: Application NOT: 978-0-618-65615-8

23. ANS: C PTS: 1 DIF: Level B REF: MAL20176

TOP: Lesson 1.6 Solve Linear Inequalities

KEY: English | units | inequality | word | metric | condition BLM: Application

NOT: 978-0-618-65615-8

24. ANS: B PTS: 1 DIF: Level B REF: MAL21002

TOP: Lesson 7.1 Graph Exponential Growth Functions KEY: function | graph | exponential

BLM: Knowledge NOT: 978-0-618-65615-8

25. ANS: C PTS: 1 DIF: Level B REF: MAL21004

TOP: Lesson 7.1 Graph Exponential Growth Functions KEY: exponential | equation

BLM: Knowledge NOT: 978-0-618-65615-8

26. ANS: D PTS: 1 DIF: Level B REF: MAL21009

TOP: Lesson 7.1 Graph Exponential Growth Functions KEY: word | exponential | growth

BLM: Application NOT: 978-0-618-65615-8